

ABSTRACT OF THE DISCLOSURE

A plasma process apparatus for performing a plasma process on a target substrate **4** includes a process chamber **5** in which the target substrate **4** is installed, a gas inlet **6** for introducing a gas into the process chamber **5**, and a plasma discharge production section **15** provided in the process chamber **5**. The plasma discharge production section **15** includes a first electrode **2a** and a second electrode **2b** that is closer to the target substrate **4** than the first electrode **2a** is. Only surfaces of the first electrode **2a** and the second electrode **2b** which can be seen in the normal line direction of the target substrate **4** function as plasma discharge surfaces. Thus, a high quality film is realized even at a low target substrate temperature, and the film formation is performed with high gas dissociation efficiency.